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10/583,881

06/21/2006

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EXAMINER

CALANDRA, ANTHONY J

ART UNIT

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1741

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/583,881 | Applicant(s) NISHI ET AL. | |
| | Examiner ANTHONY CALANDRA | Art Unit 1741 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 21 April 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7, 11 and 14-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 11, and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Detailed Office Action

The communication dated 4/21/2011 has been entered and fully considered.

Claims 16-19 are new. Claims 1-6, 8-10, and 12-13 have been canceled. Claims 7, 11, and 14-19 are currently pending.

Response to Arguments

Applicants argue that a piece of paper discloses in SATORU does not correspond to paper stock of KAMO or the papermaking stock of SMOOK.

In the combination of SATORU and KAMO, as per SATORU, a paper piece is removed a gypsum board by crushing the gypsum board and performing heating on the gypsum with the paper piece and then dry sieved. The crushed and heated gypsum and paper is then mixed with water and agitated. The act of crushing and then agitation/mixing into water breaks the paper piece into fibers dispersed in water (i.e. pulp). This is known in the art as repulping. The degree of agitation determines how well the paper will be broken up into fibers [Smook pg. 194 column 2 – pg. 195 column and pg. 211 – column 1 – pg. 212 column 2]. SMOOK shows that the act of agitation will leave some remaining paper pieces in the pulp as fiber separation may not be complete [pg. 212 column 2 paragraph 2].

The instant specification agrees that the paper pieces can be dispersed into water [pg. 16 lines 30-34]. The separated paper piece which is now part of a pulp can be further washed as per KAMO.

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Applicants argue that the feature of “dewatering the paper piece comprising squeezing and dewatering of the water-washed paper piece by a roller, centrifugal machine or a squeezing” machine is not taught by the prior art.

SMOOK teaches a press section which uses a series of rollers to squeeze water out of fiber [pg. 228 column 2 and Figure 16-1].

Applicants argue that it would not be obvious to apply the art of KAMO, LeBLANC and SMOOK to that of SATORU. The applicant argues that SATORU teaches a paper piece of 4-8 mm and not the paper pulp of KAMO, LeBLANC and SMOOK.

The examiner agrees that SATORU *first* teaches a paper piece. However, this paper piece is transformed into pulp via the action of dilution with water and agitation. The person of ordinary skill in the art understands that the degree of agitation determines how well the paper piece is broken up into individual fibers. The act of agitation and dilution is known in the art as repulping and is required step for further processing of paper for recycling into new paper.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 7, 11, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-142638 SATORU et al., hereinafter SATORU, in view of U.S. Patent 6,470,898 KAMO, hereinafter KAMO, and Handbook for Pulp and Paper Technologists by SMOOK.

As for claims 7 and 11, SATORU teaches all the limitations as per above. SATORU discloses a crushing device for breaking up the gypsum board (*a device configured to break a waste material of gypsum board* [paragraph 0002 and paragraph 0008]). SATORU further discloses a sieve for separating gypsum from the paper (*a device configured to separate a burnt gypsum component and a paper piece from the broken waste material of gypsum board* [paragraph 0008]). SATORU discloses a device in which water is added to the recovered paper, agitating the paper water mixture and the separating adhered gypsum (*a device configured to disperse or mix the separated paper piece into water before washing the separated paper piece with water*). SATORU completes this operation three times. SATORU does not appear to disclose using a washing drum to complete the washing operation or disclose a dewatering

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device (a rotary drum-type washing device configured to wash the separated paper piece with water so as to eliminate a burnt gypsum component adhering to the paper piece, and a device configured to dewater the water-washed paper piece [paragraph 0008]).

KAMO discloses a washing drum for washing pulp [abstract] for cleaning pulp. KAMO discloses that the pulp is fed at one end of the rotary drum and leaves out the other end of the rotary air-water through flow drum [column 1 lines 43-45, lines 52-56 and Figure 1 'A' progresses from (4) to (5)]. KAMO further discloses a supply of water to the paper inside the drum (*wherein the rotary drum-type washing device comprises a paper piece inlet at one end of rotatably lying air and water through-flow drum and a paper piece outlet at the other end thereof and is capable of supplying washing water to a paper piece in the air and water through-flow drum* [column 2 lines 10-12 and Figure 2 (17)]).

At the time of the invention it would have been obvious to additionally wash the agitated used paper of SATORU in the washing device of KAMO. The person of ordinary skill in the art would be clearly motivated to use the washer of KAMO to obtain a clean pulp as KAMO states that the washer enhances filtration and dehydration to give a high cleaning effect [column 1 lines 60-63].

Alternatively, KAMO discloses a second known type of washing used paper of contaminants. A person of ordinary skill in the art would reasonably expect that by substituting or in combining the unit of KAMO with the unit SATORU that the paper would be washed. It is *prima facie* obvious to substitute/combine one known component for the same purpose with another known component for the same purpose absent evidence of unexpected results. The

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person of ordinary skill in the art would expect both washing methods of SATORU and KAMO to clean impurities from the pulp.

Neither KAMO nor SATORU disclose the steps that occur after washing of the recovered pulp. SMOOK discloses that the paper pulp can be made into paper via a paper machine [pg. 16-1]. SMOOK discloses that the paper slurry is drained and dewatered on the fourdrinier table and pressed in the press section (*a device configured to dewater the water-washed paper piece* [pg. 228 Figure 16-1]). The press section comprises rolls (*wherein the dewatering device is a device configured to squeeze and dewater the water-washed paper piece by one of a roller, a centrifugal machine, and a squeezing machine*). At the time of the invention it would have been obvious to the person of ordinary skill in the art to dewater and press the pulp formed by the process of KAMO and SATORU is the paper machine of SMOOK. The person of ordinary skill in the art would be motivated to do so to make paper which has a higher value than pulp fibers.

As for claims, 16-17, SATORU discloses that after braking the paper piece it has a length of 10mm or less [0005] which falls within the instant claimed range.

As for claims 18-19, SATORU discloses forming paper pieces of 10 mm or less and then performing dry sieving or screening [0005]. SATORU does not disclose the size of the sieve holes. However, the art of screening two substances is obvious. It is understood that the screen holes must be large enough to allow for the contaminant (in this case gypsum) to pass through but small enough that the desired substance does not pass through. Therefore it would be obvious to optimize the size of the sieve holes through routine experimentation. It would be

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understood that the sieve holes must be smaller than the formed paper pieces of 10 mm or less which would fall within the instant claimed range.

2. Claims 14 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-142638 SATORU et al., hereinafter SATORU, U.S. Patent 6,470,898 KAMO, hereinafter KAMO, and Handbook for Pulp and Paper Technologists by SMOOK, as applied to claims 7 and 11 above, and further in view of U.S. 5,255,540 LeBLANC et al., hereinafter LeBLANC

The art of KAMO/SATORU/SMOOK fail to teach the hole size of the rotary drum washer. Leblanc discloses that the hole size in a washer must be small enough to prevent fibers from washing through the holes into the filtrate. LeBLANC discloses the range of 0.004 to 0.012 inches or 0.10-0.31 mm which overlaps with the instant claimed ranges [column 5 lines 40-50]. At the time of the invention it would have been obvious to the person of ordinary skill in the art to optimize the hole/slot size in the combination of KAMO/SATORU/SMOOK to the size disclosed by LeBLANC. The person of ordinary skill in the art would be motivated to do so by LeBLANC to prevent the loss of fibers through the holes/slots. The person of ordinary skill in the art recognizes that too large of holes causes fiber loss while too small of holes requires higher water pressure for washing (smaller orifice area for water to pass through)

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY CALANDRA whose telephone number is (571)270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Daniels can be reached on (571) 272-2450. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anthony J Calandra/
Examiner, Art Unit 1741

/Matthew J. Daniels/
Supervisory Patent Examiner, Art Unit 1741